Treatment of Intraoral Carcinoma

Combined Resection of the Jaw and Radical Dissection of the Neck

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• Intraoral carcinomas first occur as primary growths. From these sites they spread by the lymphatics to the regional nodes. In the past, treatment of these lesions has consisted of radiation therapy for the primary lesion, followed by radical neck dissection. The results of this treatment have not been satisfactory. On the other hand, for carcinoma elsewhere in the body the results of surgical extirpation of the primary lesion, of the intervening lymphatics and of the regional nodes at the same operation has given much better results.

In the past few years an attempt has been made to improve the results of treatment of intraoral carcinoma by removal in continuity of the primary lesion, intervening lymphatics and regional nodes. The improvement in anesthesiology, electrolytes and fluid balance, blood replacement, and the development of the antibiotics, in conjunction with the realization that the cosmetic deformity is not as great as might be expected, has led to this development. In those centers where it has been possible to apply this principle of treatment to intraoral carcinoma the results have been very encouraging.

ANY RATIONAL TREATMENT of intraoral carcinoma must be based on a sound understanding of the natural history of the disease. At their inception, all such lesions are microscopic in size. They are confined to the area of the first appearance and remain there an indeterminate time, finally metastasizing. This spread takes place at different stages of growth depending on the type and grade of tumor. The path of spread of a primary intraoral lesion beyond the site of origin takes place with such a regularity of pattern, in almost all cases, that it is predictable within a narrow range of error. From a lesion located definitely to one side of the midline, as most are, extension is almost always to the cervical lymph nodes on the same side. Very rarely, metastasis to the opposite side occurs.

Once present in the nodes, the carcinoma will be confined there for a variable period, again depending upon its rate of growth. If untreated, or inadequately treated, the disease will finally spread beyond the limits of the cervical lymphatic system and kill the patient. Obviously, with a means of therapy that would eradicate the primary lesion, the regional lymph nodes, and the intervening lymphatic channels at the same time, before the disease became inoperable locally, more patients with intraoral carcinoma could be successfully treated. Indeed, that is a fundamental principle of surgical treatment of cancer.

In postmortem examination of patients who died of intraoral carcinoma, it was observed that the disease in at least 80 per cent of cases remained confined to the limits of the head and neck.[1, 10] Death in those cases was caused by inanition, hemorrhage, respiratory distress, or infection. In only a very small minority of cases was spread of the disease to distant areas noted at autopsy—a stirring challenge to physicians treating intraoral carcinoma.

With that principle followed in abdominal perineal resection for cancer involving the intestinal wall, various investigators have reported five-year "cure" rates of 65 per cent,[3] 43 per cent[4] and 90 per cent[6] in cases in which there was spread beyond the serosa but no palpable lymph nodes. The "cure" rates in cases in which there was lymph node involvement were 20 per cent, 23 per cent and 37 per cent, respectively. The five-year survival rate after the standardized radical mastectomy (based on the same principle) when performed in cases where no regional nodes were palpable was 81 per cent,[6] compared with 59.3 per cent in cases in which the lymph nodes were involved. As to results of treatment of cancer of the bucca, gingiva, tongue and floor of the mouth, the five-year "cure" rate has been variously reported as from zero to 20 per cent in cases in which adjacent nodes were palpable and from 28 to 50 per cent when there was no clinical evidence of extension to the nodes.[7, 8, 11]

Since intraoral cancer certainly is no less accessible than cancer of the breast or of the lower gastrointestinal tract, question arises as to the inferior results of treatment. It has been promulgated, by oncologists, that the greatest part of the answer can be found in the method of treatment that has been

used for intraoral cancer: In almost all cases, radiation to control the primary lesion, then, four to eight weeks later, radical dissection of the neck on the side of the lesion, in some cases because metastases were present and in others as a "prophylactic measure." Thus, the previously mentioned basic principle of surgical treatment of cancer has been violated.

The lymphatic channels between the primary site and adjacent nodes cannot be ignored. Channels from the tongue, the floor of the mouth, the alveolar ridge, and the buccal mucosa pass into the periosteum of the mandible and some of them enter the bone, and tumor cells that remain within them can progress to any of those sites.

In an attempt to solve these problems of intraoral carcinoma, combined jaw resection and neck dissection in continuity has been increasingly performed in the last five or six years. The en-bloc removal of the primary intraoral lesion, the intervening lymphatic channels and the regional nodes was known many years ago. But the mortality rate incident to the operation was high and, what with the rapid advances that were made in roentgenologic technique, radiation became the treatment of choice. Now, however, increased knowledge of fluid and electrolyte balance, blood replacement and the use of antibiotics has made possible the performance of so radical an operation with very low mortality.

The technique of the procedure for removal of a primary lesion, the regional nodes and the intervening lymphatic channels has become rather well standardized, and description of it in great detail may be found in any of several papers.[2, 12] For a carcinoma of the tongue, half the tongue and the floor of the mouth on the involved side, as well as the mandible and all lymphatic and node bearing tissue on that side of the neck, must be removed. For a clean dissection this will include all tissue removed in a standard radical neck dissection as outlined by Martin.[9]

The procedure is not so deforming as might be thought. There is some flattening of the face on the side operated upon, but if the remaining mandible is immobilized in the proper plane of occlusion for six to eight weeks, until scar contracture has occurred, it will be maintained in a relatively normal position and not pulled grotesquely to one side. Ability to open and close the jaw and to masticate acceptably can be expected.

The worth of any procedure in the treatment of carcinoma is measured by the results. Reports by surgeons who have done the operation on many patients indicated that five-year "cure" can be expected in 40 to 60 per cent of cases.[9, 12] These reports are the more remarkable in that they are based on the results obtained in quite advanced cases. As would be expected, combined jaw resection and neck dissection was first applied only when there appeared to be nothing to lose. In light of the results in such cases, indications for use of the operation in more favorable circumstances are constantly being extended. Some physicians feel that the problem of intraoral carcinoma should be approached with the same attitude as is carcinoma of the breast. In dealing with mammary cancer, surgeons do not hesitate to remove the primary lesion, the intervening lymphatic channels and the regional nodes with sacrifice of all associated tissue, even in cases in which there is no clinical indication of involvement of the nodes.

At present the philosophy of combined jaw resection and neck dissection and the indications for the operation are in a state of development and flux. Physicians most familiar with the problems of dealing with the condition are rather generally agreed that the procedure should be applied if there is enlargement of the nodes in the neck. The final status and application of this procedure will have to be developed in centers where there are many cases and enough data for statistical analysis can be collected in a relatively short time.

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